

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method, comprising:

applying a laser beam to a layer of first material including a bottom surface
disposed on a layer of second material, wherein the laser beam penetrates beyond the
first material and into the second material, to diffuse a portion of the first material into
the second material, ~~wherein the laser beam penetrates beyond the first material and~~
~~into the second material~~, to form an alloy, wherein the alloy is formed entirely below the
bottom surface of the layer of first material.

2. (previously presented) The method of claim 1, wherein:

the laser beam is provided by one of a YAG laser, a CO2 laser, or an infrared
laser.

3. (previously presented) The method of claim 1 wherein:

the second material includes metal; and

applying the laser beam forms an electrically conductive trace.

4. (previously presented) The method of claim 3, wherein:

the first material includes tin, the second material includes copper, and the electrically conductive trace includes a copper tin alloy.

5. (previously presented) The method of claim 3, wherein:

the laser beam has a width between about 2 mils and about 8 mils.

6-10 (cancelled)

11. (currently amended) A method comprising:

forming a metal layer on a core;

placing a diffusion layer on the metal layer; ~~and~~

applying photo-thermal energy via laser beam to the diffusion layer to diffuse a portion of the diffusion layer into the metal layer, wherein the laser beam penetrates beyond the diffusion layer and into the metal layer; and

removing non-diffused portions of the diffusion layer by chemical mechanical polishing.

12-27 (cancelled)

28. (previously presented) The method of claim 1, wherein:

the laser beam causes a portion of the second material to ablate into a plasma.

29. (previously presented) The method of claim 1, wherein:

the laser beam is provided by a laser programmed to pattern a desired pattern of electrically conductive traces.

30. (previously presented) The method of claim 3, further comprising:
removing non-diffused portions of the layer of first material.

31. (previously presented) The method of claim 11, wherein:
the metal layer comprises copper and the diffusion layer comprises at least one of an organic material, a polymer epoxy, or an organic metal.

32. (canceled)

33. (previously presented) The method of claim 30, wherein:
removing non-diffused portions of the layer of first material comprises chemical mechanical polishing.

34. (previously presented) The method of claim 30, wherein:
forming the electrically conductive trace comprises forming the electrically conductive trace with a 20%-30% larger width than a desired width, the desired width being obtained after removing non-diffused portions of the layer of first material.

35. (new) The method of claim 11, further comprising:
removing non-diffused portions of the metal layer.

36. (new) The method of claim 11, wherein:

the metal layer includes copper and the diffusion layer includes tin.